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10/773,178	02/09/2004	Yoshitsugu Morita	118563	6774

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EXAMINER

MARTIN, LAURA E

ART UNIT PAPER NUMBER

2853

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/773,178	<b>Applicant(s)</b> MORITA, YOSHITSUGU	
	<b>Examiner</b> Laura E. Martin	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15, 17-25, 27, 28 and 30-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17-25, 27, 28 and 30-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Gasvoda et al. (US 2002/0001009).

As per claim 1, Gasvoda et al. teaches an ink package comprising an ink bag (figure 1, element 110A) including a pair of flexible walls [0044] which are opposed to each other and accommodating ink; and an ink delivering portion (figure 10, element 1110) having a passage (figure 10, element 1126) through which an interior space and an exterior space of said ink bag are held in communication for delivering said ink in said ink bag to said exterior space (figure 10, element 1202), wherein said ink delivering portion includes a fixing portion (figure 10, element 1280) which is fixed to one of opposite ends of said ink bag, and an extending portion (figure 12, elements 1122, 1124, 1292) which is formed adjacent to said fixing portion so as to extend therefrom in a first direction into said interior space of said ink bag [0051], said extending portion having a cross sectional area which gradually decreases in the first direction from said one of the opposite ends of said ink bag toward the other end thereof (figure 12).

As per claim 2, Gasvoda et al. teaches the extending portion having a thickness which gradually decreases in a first direction (figure 12).

As per claim 3, Gasvoda et al. teaches said fixing portion and extending portion having a cross sectional area that gradually decrease in opposite second directions which are perpendicular to said first direction (figure 12, element 1292) and a third direction in which said pair of walls are opposed to each other (figure 11, element 1292).

As per claim 4, Gasvoda et al. teaches said pair of flexible walls are constituted by a pair of flexible sheets (figure 10, elements 1114 and 1116) which are opposed to each other and which are connected to each other at peripheral edges thereof (figure 10, elements 1118 and 1126), said extending portion being symmetrical with respect to a plane including a connected surface at which a pair of flexible sheets are connected (figure 10).

As per claim 5, Gasvoda et al. teaches the extending portion having at one of opposite ends thereof at which said extending portion is adjacent to said fixing portion (figure 11, elements 1292 and 1280), a second dimension as measured in a second direction perpendicular to said first direction (first and second direction – x and y axis – figure 12, element 1292) and a third direction in which said pair of flexible sheets are opposed to each other, said second dimension being larger than said first dimension as measured in first direction).

As per claim 6, Gasvoda et al. teaches the second dimension of said extending portion (x axis of element 1292 in figure 12) of extending portion is larger than a third dimension (y axis of element 1292 in figure 11) thereof as measured in said third direction.

As per claim 7, Gasvoda et al. teaches a passage (figure 10, element 1126) extending through said fixing portion (figure 10, element 1280) and said extending portion (figure 10, elements 1122 and 1124), said passage having a cross sectional area in said fixing portion larger than that in the extending portion (figure 10)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gasvoda et al (US 20020001009) in view of Kawasato et al. (JP 06039161).

Gasvoda et al. teaches an ink package comprising at least two passages (figure 11, elements 1108 and 1110).

Gasvoda et al. does not teach an ink bag having, in a state in which the amount of ink in said ink bag is reduced to a predetermined minimum value after the ink has been used under an ordinary recommended condition, a non-contact portion in which said walls do not contact each other and in which the ink remains unless said ink delivering portion has extending portion, said extending portion having a configuration which substantially corresponding to that of said non-contact portion. Gasvoda et al. also does not teach at least two passages extending through said fixed portion and said

extending portion, said ink package further comprising a hollow insulating member which extends from said extending portion toward the interior space of said ink bag and which communicates a passage.

Kawasato et al. teaches an ink bag having, in a state in which the amount of ink in said ink bag is reduced to a predetermined minimum value after the ink has been used under an ordinary recommended condition, a non-contact portion in which said walls do not contact each other and in which the ink remains unless said ink delivering portion has extending portion, said extending portion having a configuration which substantially corresponding to that of said non-contact portion (figure 5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Gasvoda et al. with the disclosure of Kawasato et al. in order to provide a higher quality ink tank.

Claims 9-12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gasvoda et al (US 20020001009) in view of Kawashima (JP 60131248).

Gasvoda et al. teaches an ink bag having two passages. Gasvoda et al. also teaches at least two passages being aligned with each other (figure 11, elements 1108 and 1110) on a plane perpendicular to a direction in which said pair of flexible walls (figure 10, elements 1114 and 1116).

Gasvoda et al. also does not teach at least two passages extending through said fixed portion and said extending portion, said ink package further comprising a hollow insulating member which extends from said extending portion toward the interior space

of said ink bag and which communicates a passage. Gasvoda et al. also does not teach said hollow insulating member having an inside diameter than that of said one of at least two passages communicating with said hollow insulating member. Gasvoda et al. also does not teach the hollow insulating member is formed integrally with said extending portion is formed integrally with said extending portion. Gasvoda et al. also does not teach the ink delivering portion including electrode supporting portions each of which closes one of opposite ends of a corresponding one of said at least two passages on the side remote from said ink bag, said electrode supporting portions being provided for supporting a pair of electrodes. Gasvoda et al. also does not teach at least two passages being offset from a mid point of a dimension of said ink bag as measured on said plane in a direction perpendicular to said first direction.

Kawashima teaches at least two passages extending through said fixed portion (figure 4, elements 21, 23 and 24) and said extending portion (figures 4, element 22), said ink package further comprising a hollow insulating member (figure 4, element 25) which extends from said extending portion toward the interior space of said ink bag (figure 4, elements 1<sub>1</sub>, 1<sub>2</sub>, and 1<sub>3</sub>), and which communicates a passage. Kawashima also teaches said hollow insulating member having an inside diameter than that of said one of at least two passages (figure 4, element 21) communicating with said hollow insulating member (figure 4, element 25). Kawashima also teaches the hollow insulating member is formed integrally with said extending portion (figure 4). Kawashima also teaches the ink delivering portion including electrode supporting portions (figure 5, elements 23 and 24) each of which closes one of opposite ends of a corresponding one

of said at least two passages on the side remote from said ink bag, said electrode supporting portions being provided for supporting a pair of electrodes (figure 5, elements 23 and 24). Kawashima also teaches at least two passages being offset from a mid point of a dimension of said ink bag as measured on said plane in a direction perpendicular to said first direction (figure 5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Gasvoda et al. with the disclosure of Kawashima et al. in order to improve ink storage quality.

Claim 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Gasvoda et al (US 20020001009) and Kawashima (JP 60131248) in view of Kawasato et al. (JP 06039161).

Gasvoda et al. and Kawashima teach the ink package of claim 12; however, neither discloses one of said pair of electrodes having a hollow ink-extracting needle for extracting the ink in said ink bag.

Kawasato et al. teaches one of said pair of electrodes having a hollow ink-extracting needle for extracting the ink in said ink bag (figure 6, element 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the inventions of Gasvoda et al. and Kawashima with the disclosure of Kawasato et al. in order to make a more compact ink bag.



Claims 15 and 17-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawasato et al. (JP 06039161) in view of Rosback (US 4568954) and Miyazawa et al. (US 6280024).

As per claim 15, Kawasato et al. teaches an ink detecting apparatus which detects ink in an ink package (figure 1, element 3) that includes an ink bag (figure 1, element 1) accommodating ink (figure 1, element 2) and an ink delivering portion (figure 1, element 7) through which ink in said ink bag is delivered from said ink bag, and said ink detecting apparatus comprising a pair of electrodes (figure 4, 19 and 5) provided to be held at one of opposite ends of said ink bag to electrically conduct with ink in said ink bag; a hollow insulating member (figure 6, element 30) provided for one of said pair of electrodes to extend in a direction from said one of opposite ends of said ink bag toward the other end thereof, the ink in said ink bag reaching said one of said pair of electrodes through the hollow insulating member (figure 4 and figure 5); and an electric characteristics detecting device which detects electric characteristics between said pair of electrodes (detailed description).

As per claim 17, Kawasato et al. teaches the ink package (figure 1, element 2) is removably mounted (removable loading section, detailed disclosure) on a mounting portion, and said pair of electrodes are attached to at least one of said ink package and said mounting portion (figure 4, elements 19 and 5) and extend toward said ink bag in a state in which the ink package is mounted on the mounting portion (figure 4).

As per claim 18, Kawasato et al. teaches the ink bag including a pair of walls (figure 4, element 1) which are opposed to each other and which are flexible (figures 4

and 5) in a direction in which said pair of walls contact each other with a decrease in an amount of ink in said ink bag, said ink bag having a contact portion (figure 5) in which said walls contact each other in a state in which the amount of ink in said ink bag is reduced to a predetermined minimum value after the ink has been used under an ordinary recommended condition, and a non-contact portion in which said walls do not contact in said state and in which the ink remains, said hollow insulating member (figure 6, element 30) extending in said direction from said first end toward the second end thereof beyond a boundary between said contact portion and said non-contact portion (figure 5, element 5).

As per claim 19, Kawasato et al. teaches either one of said pair of electrodes is a hollow ink-extracting needle for extracting the ink from said bag (figure 5, element 7)

As per claim 20, Kawasato et al. teaches at least one of said pair of electrodes is attached to the ink package (figure 5, element 19).

As per claim 21, Kawasato et al. teaches at least one pair of electrodes is attached to said mounting portion (figure 5, elements 7 and 25).

As per claim 22, Kawasato et al. teaches the hollow insulating member being formed integrally with said ink delivering portion (figure 4, elements 5 and 7).

As per claim 23, Kawasato et al. teaches the ink delivering portion (figure 5, element 7), and an electrode supporting portion (figure 6, element 6) which closes one of opposite ends of the at least one passage on the side remote from the ink bag (detailed description), and is provided for supporting one of said pair of electrodes

(figure 6, element 7), said hollow insulating member (figure 6, element 30) communicating with at least one passage.

As per claim 24, Kawasato et al. teaches the ink delivering portion (figure 6, element 7) wherein the hollow insulating member (figure 6, element 5) has an inside diameter smaller than that of said at least one passage communicating with said hollow insulating member (figure 6, element 6).

As per claim 15, Kawasato et al. does not disclose a pair of electrodes held both at a first end, extending towards a second end of the bag opposite the first end; one of said pair of electrodes does not protrude into an interior space of said ink bag; or wherein said ink delivering portion includes a passage within which the other of said pair of electrodes is located so as not to protrude into said interior space of said ink bag.

As per claim 23, Kawasato et al. does not disclose another passage which is different from the first passage within which the other of said pair of electrodes is located, such that said one of said pair of electrodes is located within said another passage.

As per claim 25, Kawasato et al. does not disclose the ink delivering portion further including another electrode supporting portion which closes one of opposite ends of the passage on the side remote from said ink bag and which is provided for supporting the other of said pair of electrodes.

As per claim 15, Rosback discloses a pair of electrodes held both at a first end, extending towards a second end of the bag opposite the first end (figure 3, elements 188 and 190) and a hollow insulating member provided for one of said pair of electrodes to extend in a direction from the first end toward a second end of the bag that is opposite to the first end, such that one of said pair of electrodes does not protrude into an interior space of said ink bag, the ink in said ink bag reaching one of said pair of electrodes through the hollow insulating member (figure 3, element 174).

As per claim 23, Rosback discloses the ink delivering portion further includes: another passage (figure 3, elements 40 and 41) which is different from the passage within which the other of said pair of electrodes is located; and an electrode supporting portion (figure 3, element 40 – plate) which closes one of opposite open ends of said another passage on the side remote from the ink bag and which is provided for supporting one of said pairs of electrodes such that said one of said pair of electrodes is located within said another passage (figure 3), said hollow insulating member communicating with said another passage (figure 3).

As per claim 25, Rosback discloses the ink delivering portion further including another electrode supporting portion which closes one of opposite ends of the passage on the side remote from said ink bag and which is provided for supporting the other of said pair of electrodes (figure 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink package of Kawasato with the disclosure of Rosback in order

to provide for easier assembly and measurement, as well as to serve as a protective measure for the electrode.

As per claim 15, Miyazawa et al. discloses one of said pair of electrodes is located so as not to protrude into said interior space of said ink bag (figure 2, element 34).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink bag taught by Kawasato with the disclosure of Miyazawa et al. in order to better protect the electrode.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawasato et al. (JP 06039161), Rosback (US 4568954), and Miyazawa et al. (US 6280024), and further in view of Gasvoda et al (US 20020001009).

Kawasato et al. as modified teaches the ink detecting apparatus wherein said ink delivering portion (figure 5, element 7) of said ink delivering package (figure 5, element 2) includes a fixing portion (figure 6, element 6) which is fixed to one of opposite ends of said ink bag (figure 6) and an extending portion (figure 6, element 5) which is formed adjacent to said fixing portion so as to extend therefrom into said bag (figure 6, element 2).

Kawasato et al. as modified does not teach said extending portion having a cross sectional area which decreases in a direction from one of opposite ends of said ink bag toward the other end thereof.

Gasvoda et al. teaches an extending portion having a cross sectional area which decreases in a direction from one of opposite ends of said ink bag toward the other end thereof (figure 11, element 1292).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Kawasato et al. as modified with that of Gasvoda et al. in order to create a leak-proof ink bag.

Claims 28, 31-33, and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawashima (JP 60131248) in view of Rosback (US 4568954) and Miyazawa et al. (US 6280024).

As per claim 28, Kawashima teaches an ink package (figure 4, element 17) comprising an ink bag (figure 3, element 15) accommodating ink and including a pair of walls that are opposed to each other (figure 3), element 15) and which are flexible in a direction in which said pair of walls contact each other with a decrease in an amount of ink in said ink bag (figure 4, elements 1<sub>1</sub>, 1<sub>2</sub>, 1<sub>3</sub>); an ink delivering portion (figure 5, element 22) which is provided at one of opposite ends of said side walls and is provided for supporting a pair of electrodes (figure 5, elements 23, 24) such that said pair of electrodes electrically conduct with the ink in said ink bag (constitution); and a hollow insulating member (figure 5, element 25) which extends in a direction from one of said opposite ends of said walls toward the other end thereof, and has a passageway which communicates with one of said pair of electrodes (figure 4, element 23) and the ink within said bag at opposite ends thereof, respectively.

As per claim 31, Kawashima teaches an ink package wherein said ink bag has a contact portion in which said walls contact each other in a state in which the amount of ink in said ink bag is reduced to a predetermined minimum value after the ink has been used under an ordinary recommended condition (figure 4, elements  $I_1$ ,  $I_2$ ,  $I_3$ ), and a non-contact portion in which said walls do not contact in said state and in which the ink remains (figure 4, element  $I_3$ ), said hollow insulating member (figure 4, element 25) extending in said direction from said first end towards the second end beyond a boundary between said contact portion and said non contact portion (figure 6).

As per claim 32, Kawashima teaches an ink package wherein said hollow insulating member (figure 4, element 25) is formed integrally with said ink delivering portion (figure 4, element 22).

As per claim 33, Kawashima teaches an ink package wherein said ink delivering portion (figure 5, element 22) includes at least one passage (figure 4, element 21) so as to extend therethrough, and an electrode supporting portion (figure 4, element 22) which closes one of opposite ends of said at least one passage on the side remote from the ink bag (figure 4), and is provided for supporting one of said pair of electrodes (figure 5, elements 23 and 24), said hollow insulating member (figure 4, element 25) communicating with at least one passage (figure 4).

As per claim 34, Kawashima teaches the hollow insulating member (figure 4, element 25) having an inside diameter smaller than that of said at least one passage (figure 4, element 21) communicating with said hollow insulating member.

As per claim 35, Kawashima teaches an ink package wherein the ink delivering portion (figure 5, element 22) includes at least two passages (figure 5, elements 23 and 24), at least two of said at least two passages having electrode supporting portions (figure 4, elements 23 and 24) each of which closes one of opposite ends of a corresponding one of said at least two passages on the side remote from the ink bag (figures 4 and 5, elements 23 and 24), and is provided for supporting each of said pair of electrodes, said hollow insulating member (figure 4, element 25) communicating with one of said at least two passages (figure 4).

As per claim 36, Kawashima teaches an ink package where said hollow insulating member (figure 4, element 25) has an inside diameter smaller than that of said one of said at least two passages communicating with hollow insulating member (figure 4, element 21)

As per claim 28, Kawashima does not disclose a pair of electrodes held both at a first end, extending towards a second end of the bag opposite the first end; one of said pair of electrodes does not protrude into an interior space of said ink bag; or wherein said ink delivering portion includes a passage within which the other of said pair of electrodes is located so as not to protrude into said interior space of said ink bag.

As per claim 33, Kawashima does not disclose another passage which is different from the first passage within which the other of said pair of electrodes is located, such that said one of said pair of electrodes is located with in said another passage.



As per claim 35, Kawasato et al. does not disclose the ink delivering portion further including another electrode supporting portion which closes one of opposite ends of the passage on the side remote from said ink bag and which is provided for supporting the other of said pair of electrodes.

As per claim 28, Rosback discloses a pair of electrodes held both at a first end, extending towards a second end of the bag opposite the first end (figure 3, elements 188 and 190) and a hollow insulating member provided for one of said pair of electrodes to extend in a direction from the first end toward a second end of the bag that is opposite to the first end, such that one of said pair of electrodes does not protrude into an interior space of said ink bag, the ink in said ink bag reaching one of said pair of electrodes through the hollow insulating member (figure 3, element 174).

As per claim 33, Rosback discloses the ink delivering portion further includes: another passage (figure 3, elements 40 and 41) which is different from the passage within which the other of said pair of electrodes is located; and an electrode supporting portion (figure 3, element 40 – plate) which closes one of opposite open ends of said another passage on the side remote from the ink bag and which is provided for supporting one of said pairs of electrodes such that said one of said pair of electrodes is located within said another passage (figure 3), said hollow insulating member communicating with said another passage (figure 3).

As per claim 35, Rosback discloses the ink delivering portion further including another electrode supporting portion which closes one of opposite ends of the passage

on the side remote from said ink bag and which is provided for supporting the other of said pair of electrodes (figure 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink package of Kawashima with the disclosure of Rosback in order to provide for easier assembly and measurement, as well as to serve as a protective measure for the electrode.

As per claim 28, Miyazawa et al. discloses one of said pair of electrodes is located so as not to protrude into said interior space of said ink bag (figure 2, element 34).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink bag taught by Kawasima with the disclosure of Miyazawa et al. in order to better protect the electrode.

Claims 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima (JP 60131248), Rosback (US 4568954), and Miyazawa et al. (US 6280024), in view of Kawasato et al. (JP 06039161).

Kawashima teaches the ink package according to claim 28; however, it does not teach one of said pair of electrodes being a hollow needle.

Kawasato et al. teaches one of said pair of electrodes being a hollow needle (figure 6, element 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Kawashima with the disclosure of Kawasato et al. in order to provide a more compact ink bag.

### ***Response to Arguments***

After re-evaluation of claim 1, examiner notes that the fixing portion does extend in a first direction, the same first direction in which the cross-sectional area decreases. Examiner requests that the first direction is further defined.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Examiner notes that Perkins et al (US 20040032470) teaches a cross-sectional area decreasing in another first direction.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the


shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Laura E. Martin

  
**MANISH S. SHAH**  
**PRIMARY EXAMINER**